What is claimed is:

1. A piezoelectric vibrator, comprising

a vibration plate having a primary surface; and

a piezoelectric device attached on the primary surface of the vibration plate, wherein the piezoelectric device includes a piezoelectric film and two electrodes formed on two sides of the piezoelectric film,

wherein one of the two sides of the piezoelectric film on which the vibration plate is not attached is a primary side and one electrode of two electrodes formed on the primary side is a primary electrode;

wherein the primary electrode is substantially uniformly coated on the primary side and made of a continuous mesh metal film.

2. The piezoelectric vibrator of claim 1, wherein a metal film occupation ratio of the continuous mesh metal film to the primary side of the piezoelectric film in the primary electrode ranges from about 60% to about 80%.

3. The piezoelectric vibrator of claim 1, further comprising a contact electrode formed along the inside of the circumference of the primary electrode, wherein the contact electrode is made of spotted metal film.

4. The piezoelectric vibrator of claim 3, wherein a metal film occupation ratio of the spotted metal film to the primary side of the piezoelectric film in the contact electrode is equal to or larger than about 90%.

5. The piezoelectric vibrator of claim 3, wherein the contact electrode is divided into one or more contact electrodes, wherein the contact electrodes are installed on a plurality of spots arranged with a substantially equiangular distance along the inside of the circumference of the primary electrode.

6. The piezoelectric vibrator of claim 3, wherein the equiangular distance is determined based on a length of a lead, wherein the lead reaches to one or more contact electrodes.

7. The piezoelectric vibrator of claim 1, wherein the piezoelectric device is made of a number of piezoelectric films and a multiple of electrodes alternately stacked and cofired.

8. The piezoelectric vibrator of claim 7, wherein a ratio E_t/P_t of a thickness E_t of each electrode to a thickness P_t of each piezoelectric film is calculated as follows:

$$0.02 \le \frac{E_t}{P_t} \le 0.30 .$$

9. The piezoelectric vibrator of claim 7, wherein a ratio E_t/P_t of a thickness E_t of each electrode to a thickness P_t of each piezoelectric film is calculated as follows:

$$0.04 \le \frac{E_t}{P_t} \le 0.25 .$$

10. The piezoelectric vibrator of claim 7, wherein a ratio E_t/P_t of a thickness E_t of each electrode to a thickness P_t of each piezoelectric film is calculated as follows:

$$0.1 \le \frac{E_t}{P_t} \le 0.2$$

11. A piezoelectric vibration apparatus for using the piezoelectric vibrator of claim 1.

12. The piezoelectric vibration apparatus of claim 11, further comprising a frame having an inner portion for supporting the circumference of the piezoelectric vibrator.

13. A method for manufacturing the piezoelectric vibrator of claim 1, wherein the mesh metal film is formed by a coherence process of a conduction paste.